World Wide NeuRise

Talks by rising stars of neuroscience

Predictive processing in the macaque frontal cortex during time estimation

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According to the theory of predictive processing, expectations modulate neural activity so as to optimize the processing of sensory inputs expected in the current environment. While there is accumulating evidence that the brain indeed operates under this principle, most of the attention has been placed on mechanisms that rely on static coding properties of neurons. The potential contribution of dynamical features, such as those reflected in the evolution of neural population dynamics, has thus far been overlooked. In this talk, I will present evidence for a novel mechanism for predictive processing in the temporal domain which relies on neural population dynamics. I will use recordings from the frontal cortex of macaques trained on a time interval reproduction task and show how neural dynamics can be directly related to animals' temporal expectations, both in a stationary environment and during learning.

Event link:
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